RAW SEQUENCE LISTING

3 <110> APPLICANT: Kuliopulos, Athan

DATE: 07/10/2003 TIME: 11:18:33

PATENT APPLICATION: US/09/841,091B

Input Set : A:\NEMC-215(2).APP.txt

Output Set: N:\CRF4\07102003\I841091B.raw

```
Covic, Lidija
 6 <120> TITLE OF INVENTION: G Protein Coupled Receptor (GPCR) Agonists and
        Antagonists and Methods of Activating and Inibiting
         GPCR Using the Same
10 <130> FILE REFERENCE: 18475-034
12 <140> CURRENT APPLICATION NUMBER: 09/841,091B
13 <141> CURRENT FILING DATE: 2001-04-23
15 <150> PRIOR APPLICATION NUMBER: 60/198,993
                                                           ENTERED
16 <151> PRIOR FILING DATE: 2000-04-21
18 <160> NUMBER OF SEQ ID NOS: 29
20 <170> SOFTWARE: PatentIn Ver. 2.1
22 <210> SEO ID NO: 1
23 <211> LENGTH: 19
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial Sequence
27 <220> FEATURE:
28 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
        Peptide Sequence
31 <400> SEQUENCE: 1
32 Arg Cys Leu Ser Ser Ser Ala Val Ala Asn Arg Ser Lys Lys Ser Arg
35 Ala Leu Phe
38 <210> SEQ ID NO: 2
39 <211> LENGTH: 13
40 <212> TYPE: PRT
41 <213> ORGANISM: Artificial Sequence
43 <220> FEATURE:
44 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
        Peptide Sequence
4.5
47 <400> SEQUENCE: 2
48 Ala Val Ala Asn Arg Ser Lys Lys Ser Arg Ala Leu Phe
49 1
52 <210> SEQ ID NO: 3
53 <211> LENGTH: 7
54 <212> TYPE: PRT
55 <213> ORGANISM: Artificial Sequence
57 <220> FEATURE:
58 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
       Peptide Sequence
61 <400> SEQUENCE: 3
62 Lys Lys Ser Arg Ala Leu Phe
63 1
```

CEIVED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/841,091B

DATE: 07/10/20036 2003

TIME: 11:18:33

Input Set : A:\NEMC-215(2).APP.txt
Output Set: N:\CRF4\07102003\1841091B.raw

```
66 <210> SEO ID NO: 4
67 <211> LENGTH: 12
68 <212> TYPE: PRT
69 <213> ORGANISM: Artificial Sequence
71 <220> FEATURE:
72 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
       Peptide Sequence
75 <400> SEQUENCE: 4
76 Arg Cys Leu Ser Ser Ser Ala Val Ala Asn Arg Ser
77 1
                     5
                                        10
80 <210> SEQ ID NO: 5
81 <211> LENGTH: 15
82 <212> TYPE: PRT
83 <213> ORGANISM: Artificial Sequence
85 <220> FEATURE:
86 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
        Peptide Sequence
89 <400> SEQUENCE: 5
90 Arg Cys Leu Ser Ser Ser Ala Val Ala Asn Ser Ser Ala Leu Phe
                    5
94 <210> SEQ ID NO: 6
95 <211> LENGTH: 19
96 <212> TYPE: PRT
97 <213> ORGANISM: Artificial Sequence
99 <220> FEATURE:
100 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
101
          Peptide Sequence
103 <400> SEQUENCE: 6
104 Arg Cys Glu Ser Ser Ala Glu Ala Asn Arg Ser Lys Lys Glu Arg
105
107 Glu Leu Phe
110 <210> SEQ ID NO: 7
111 <211> LENGTH: 21
112 <212> TYPE: PRT
113 <213> ORGANISM: Artificial Sequence
115 <220> FEATURE:
116 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
117 Peptide Sequence
119 <400> SEQUENCE: 7
120 Arg Met Leu Arg Ser Ser Ala Met Asp Glu Asn Ser Glu Lys Lys Arg
121 1
                      5
123 Lys Arg Ala Ile Lys
127 <210> SEQ ID NO: 8
128 <211> LENGTH: 21
129 <212> TYPE: PRT
130 <213> ORGANISM: Artificial Sequence
132 <220> FEATURE:
133 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/841,091B

DATE: 07/10/2003
TIME: 11:18:33

Input Set : A:\NEMC-215(2).APP.txt
Output Set: N:\CRF4\07102003\I841091B.raw

```
Peptide Sequence
136 <400> SEQUENCE: 8
137 Arg Met Leu Arg Ser Ser Ala Met Asp Glu Asn Ser Glu Lys Lys Arg
138
140 Lys Arg Ala Ile Phe
141
                 20
144 <210> SEQ ID NO: 9
145 <211> LENGTH: 15
146 <212> TYPE: PRT
147 <213> ORGANISM: Artificial Sequence
149 <220> FEATURE:
150 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
153 <400> SEQUENCE: 9
154 His Thr Leu Ala Ala Ser Gly Arg Arg Tyr Gly His Ala Leu Arg
155 1
                                         10
158 <210> SEQ ID NO: 10
159 <211> LENGTH: 15
160 <212> TYPE: PRT
161 <213> ORGANISM: Artificial Sequence
163 <220> FEATURE:
164 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
167 <400> SEQUENCE: 10
168 His Thr Leu Ala Ala Ser Gly Arg Arg Tyr Gly His Ala Leu Phe
    1
                                          10
172 <210> SEQ ID NO: 11
173 <211> LENGTH: 23
174 <212> TYPE: PRT
175 <213> ORGANISM: Artificial Sequence
177 <220> FEATURE:
178 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
         Peptide Sequence
181 <400> SEQUENCE: 11
182 Lys Val Lys Ser Ser Gly Ile Arg Val Gly Ser Ser Lys Arg Lys Lys
                      5
                                         1.0
                                                              1.5
185 Ser Glu Lys Lys Val Thr Lys
186
                 20
189 <210> SEQ ID NO: 12
190 <211> LENGTH: 23
191 <212> TYPE: PRT
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
198 <400> SEQUENCE: 12
199 Lys Val Arg Ser Ser Gly Ile Arg Val Gly Ser Ser Lys Arg Lys Lys
                                         10
202 Ser Glu Lys Lys Val Thr Phe
```

DATE: 07/10/2003

```
PATENT APPLICATION: US/09/841,091B
                                                        TIME: 11:18:33
                Input Set : A:\NEMC-215(2).APP.txt
                Output Set: N:\CRF4\07102003\I841091B.raw
203
206 <210> SEQ ID NO: 13
207 <211> LENGTH: 19
208 <212> TYPE: PRT
209 <213> ORGANISM: Artificial Sequence
211 <220> FEATURE:
212 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
213 Peptide Sequence
215 <400> SEQUENCE: 13
216 Arg Ile Arg Ser Asn Ser Ser Ala Ala Asn Leu Met Ala Lys Lys Arg
217
219 Val Ile Arg
222 <210> SEQ ID NO: 14
223 <211> LENGTH: 20
224 <212> TYPE: PRT
225 <213> ORGANISM: Artificial Sequence
227 <220> FEATURE:
228 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
      Peptide Sequence
231 <400> SEQUENCE: 14
232 Arg Ile Arg Ser Asn Ser Ser Ala Ala Asn Leu Met Ala Lys Lys Arg
233 1
235 Val Ile Glu Phe
236
239 <210> SEQ ID NO: 15
240 <211> LENGTH: 18
241 <212> TYPE: PRT
242 <213> ORGANISM: Artificial Sequence
244 <220> FEATURE:
245 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
         Peptide Sequence
248 <400> SEQUENCE: 15
249 Ser Gly Ser Arg Pro Thr Gln Ala Lys Leu Leu Ala Lys Lys Arg Val
250
     1
                      5
252 Val Arg
255 <210> SEQ ID NO: 16
256 <211> LENGTH: 18
257 <212> TYPE: PRT
258 <213> ORGANISM: Artificial Sequence
260 <220> FEATURE:
261 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
264 <400> SEQUENCE: 16
265 Ser Gly Ser Arg Pro Thr Gln Ala Lys Leu Leu Ala Lys Lys Arg Val
266 1
                                        10
268 Val Phe
271 <210> SEO ID NO: 17
272 <211> LENGTH: 6
273 <212> TYPE: PRT
```

RAW SEQUENCE LISTING

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/841,091B DATE: 07/10/2003 TIME: 11:18:33

Input Set: A:\NEMC-215(2).APP.txt
Output Set: N:\CRF4\07102003\I841091B.raw

```
274 <213> ORGANISM: Artificial Sequence
276 <220> FEATURE:
277 <223> OTHER INFORMATION: Description of Artificial Sequence: Extracellular
          Agonist Peptide Sequence
280 <400> SEQUENCE: 17
281, Ser Leu Ile Gly Lys Val
285 <210> SEQ ID NO: 18
286 <211> LENGTH: 14
287 <212> TYPE: PRT
288 <213> ORGANISM: Artificial Sequence
290 <220> FEATURE:
291 <223> OTHER INFORMATION: Description of Artificial Sequence: Extracellular
          Agonist Peptide Sequence
294 <400> SEQUENCE: 18
295 Ala Gly Cys Lys Asn Phe Phe Trp Lys Thr Phe Thr Ser Cys
296
299 <210> SEQ ID NO: 19
300 <211> LENGTH: 89
301 <212> TYPE: PRT
302 <213> ORGANISM: Artificial Sequence
304 <220> FEATURE:
305 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
309 <400> SEQUENCE: 19
310 Arg Glu Leu Tyr Leu Gly Leu Arg Phe Asp Ser Asp Ser Asp Ser Gln
311
                                                              15
                                         10
313 Ser Arg Val Arg Asn Gln Gly Gly Leu Pro Gly Ala Val His Gln Asn
316 Gly Arg Cys Arg Pro Glu Thr Gly Ala Val Gly Glu Asp Ser Asp Gly
319 Cys Tyr Val Gln Leu Pro Arg Ser Arg Pro Ala Leu Glu Leu Thr Ala
        50
322 Leu Thr Ala Pro Gly Pro Gly Ser Gly Ser Arg Pro Thr Gln Ala Lys
                         70
325 Leu Leu Ala Lys Lys Arg Val Val Arg
329 <210> SEQ ID NO: 20
330 <211> LENGTH: 79
331 <212> TYPE: PRT
332 <213> ORGANISM: Artificial Sequence
334 <220> FEATURE:
335 <223> OTHER INFORMATION: Description of Artificial Sequence: Pepducin
          Peptide Sequence
339 <400> SEQUENCE: 20
340 Leu Glu Leu Tyr Gln Gly Ile Lys Phe Glu Ala Ser Gln Lys Lys Ser
                      5
                                         10
343 Ala Lys Glu Arg Lys Pro Ser Thr Thr Ser Ser Gly Lys Tyr Glu Asp
344
                 20
                                     25
```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/841,091B

DATE: 07/10/2003

B TIME: 11:18:34

Input Set : A:\NEMC-215(2).APP.txt

Output Set: N:\CRF4\07102003\I841091B.raw